# SHOCK AND REACTION FROM BAD NEWS

## REPORT OF THE DROWNING OF HERBERT FURNEY AND ITS DISPROOF BY HIS ARRIVAL AT HOME.

Yesterday afternoon about 2:30 o'clock a telephone message was received at the home of Mrs. Elizabeth Rich, 75 Fifth street, from some point out on Young's River, advising that lady of the death, by drowning, of Herbert Furney, the well known young launch man of this port, who dwells on Sixth street, between Bond and Commercial, with his widowed mother, Mrs. Elizabeth Furney, whose mainstay in life he is; and begging Mrs. Rich to break the awful news at the Furney home.

The task was a very trying one to Mrs. Rich who is a devoted friend of the Furney family, especially as it was but six short weeks ago, that Mrs. Furney was called upon to lay away her eldest daughter, a promising and lovely girl; but it had to be done and she was the closest and best friend near at hand, to do the heart breaking errand. She called in a neighboring lady friend and the two went to the Furney home, and in terms as gentle and soothing as were possible under the dreadful stress, told the news to stricken mother.

Mrs. Furney sank under the blow and was taken to her room where all that was in the province of kindly ministration was done for her by Mrs. Rich, and others who had called to sympathize and render such aid as might be timely. Rev. John Waters, rector of St. Mary's Catholic Church, was soon with the sorrowing mother and gave her the consolation and peace derivable from such abundant source. As he left the room to go down stairs on her way out, he met a young man at the head of the stairs, who, for the instant, he took to be the brother of the lost son (the boys look very much alike), but his amazemen may be better imagined than described when he realized that it was Herbert, alive and well, and not Albert, the second son. In an instant mother and son were united and the terrible mistake in course of grateful explanation.

It seems that Herbert had gone to Young's River on the launch "Swift" on business, and while she was lying at one of the landings above Young's Bay, severeal little children gathered on the decks of the launch and were playing about as children will. One little girl, a daughter of Harry Niemi's, stumbled in the course of a frolic, and plunged over the side into the fast running ebb of the tide, and Herbert, seeing the mischance went over the side in a flash, calling upon the other men on board to stand by; just as he was about to grasp the little one, one of the men on the launch reached down and grabbed her, lifting her to the deck and safety, while the tide caught young Furney and swept him beneath the hull of the boat. He came to the surface on the other side and struck out boldly for the bank. But the men on board, having seen him disappear under the vessel, took no note of his subsequent rise and success in reaching the shore, but rushed to the Niemi home and sent the fearful message into the city before he could stop it.

When he did appear among them again, the news was already at his home and his sole thought then was to get there as fast as possible and give his devoted mother the strong counter-proof of his presence, in dissipating the horrid conviction of his death. The "Swift" was turned homeward and speeded for all she was worth, and in a short while he was there in the flesh, to the abounding joy of all concerned.

The news spread rapidly over the city and gave the friends of the family a severe shock, but the happier intelligence of the mistake was just as rapid in circulating and those who grieved in the first instance rejoiced in the reaction that came with the denounement.

## CONTINUES SPEECH

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ripened to a point of falling, but he did not think they should be hailed as benefactors afterwards."

During his speech occasional conversations occurred between the Senators on the Republican side caused La Folette to discontinue reading his remarks. On one occasion he remarked: "If there are any comments on my remarks I would be glad to have them made so audibly that I can hear them." La Follette said this was not the first time in the history that the chairman of the finance committee has brought in propositions by executive decree to work the railroad bonds into the treasury department.

After speaking more than two hours and a half, La Follette yielded the floor with the statement that he will resume his speech Monday next.

## SUBMARINE BOAT QUERY

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he was going to make an investigation of the question of submarine defense on the Pacific and particularly, I believe, in reference to Puget Sound and that he was immensely interested in the subject, having been a war correspondent for various papers, and that he would like to send me a report of what he found. I answered him that of course I should be very glad to receive such a report from him or any other man who might investigate the subject. He sent a letter on the subject a few weeks later which I transmitted to the Secretary of the Navy. I have transmitted dozens of similar letters from men who have told me of investigations that they have made or of facts which they had found or suggestions which they believed were important. It is the usual course; it was followed in this instance exactly as in all similar cases. Sincerely yours,

"THEODORE ROOSEELT,

"George L. Lilley, House of Representatives."



# ELECTRIC MOTORS

## The Construction of Them Very Carefully Explained.

## POWERFUL MAGNETIC FORCE

Just as the Task Seems to be Completed the Little Revolving Commutator Has Reversed the Current and Work Has to be Done Over Again.

Small wonder that this is the age of electric power when human minds seek daily for new applications of the motor to rest the tired and worn muscles of human bodies. Industry after industry has been electrified; machine after machine has been direct connected to the labor and time saving electric motors. From the dainty little motor, small enough for a watch charm to the monster 6,000 h. p. motor used in the steel mills at Gary, Ind., the powerful little engines are made in every size and installed wherever power is required, until today nearly 2,000,000 electrical horsepower is used in this country alone. So rapidly is the demand increasing for electric motors throughout the industrial world that the great plants of the General Electric Company during the year just closed averaged nearly 3,000 motors of all sizes each month to keep pace with the orders.

With all these motors scattered broadcast over the land and used daily by thousands very few people, outside of the practical electricians, understand the working principles of the motor beyond the fact that it is a device which does mechanical work at the expense of electrical energy. Now everyone knows that a magnet will attract the opposite pole of another magnet and will exert all its energy to pull it around. It is also well-known that every magnet placed in a magnetic field tends to turn around and set itself along the lines of force. The compass is but a small balanced magnet which, in setting itself parallel with the earth's lines of magnet force, points north and south. These facts were well-known by scientists at the time of the invention of the electro-magnet by Faraday in 1826, which gave to the world a magnet which could be controlled. About this time a number of keen thinkers realized that it would be possible to construct an electric engine utilizing this magnet phenomena. It was found that if an electro-magnet was suspended between the poles of another magnet it would be pulled around parallel to the lines of magnetic force of the stationary magnet and that by reversing the current in the swinging magnet at the right time the movement could be made continuous.

The first to hit upon this happy find was one Thomas Davenport, a poor, self-educated blacksmith of Vermont, who in 1834 constructed a rotating electric motor of to-day. Between the years 1834-60 a number of inventors perfected different types of electric motors. Jacobi in 1834 placed a motor to run a boat; Henry, Fromant, Farmer, Siemens and others built motors. Electric motors were employed to drive cars as early as 1834-38 by both Davenport and Davidson. With these first inventors it was extremely difficult for them to get away from the old steam engine ideas and some of the first types worked and looked like the steam engines of that day. Many of these early "electric engines" received their power from reciprocating pistons attracted and repulsed by magnetic coils. It is needless to say that they were mere toys.

Davenport set the scientific world agog with his electric motor. In 1852 Page succeded in constructing a motor large enough to run a circular saw and a lathe. Davidson, in 1842, ran an electric carriage about the streets of Glasgow at four miles an hour. A motor of ten horsepower was built in 1849 by Soren Hjorth at Liverpool. Two important steps were the invention of the shuttle armature by Siemens in 1855 and the ring armature in 1864 by Pacinotti. The motor development came after Gramme's dynamos in 1871. All the first attempts at motor building came to naught because the was too cumbersome and costly and because the electrical engineers of those days did not clearly understand the physical laws of the energy with which they were dealing.

The source of power in the motor is always a mystery to the layman as he stands and watches the busy machine, yet it is all simple enough when carefully explained. Of course in the latest types of three-phase motors such an explanation would be complicated but the working principles remain the same as in the simplest form of motor. By way of explanation take the direct current bipolar motor, which as its name implies, consists of a single field magnet of two poles. The magnetizing coils of this field magnet are placed in a solid frame with the polar ends facing leaving a suitable space between, known as the magnetic field, in which the armature revolves. When an electric current is passed through the magnetizing coils of the field magnet a powerful magnet is produced of which one end is the north, or positive pole and the other and opposite end the south, or negative pole. The lines of invisible magnetic force extends across the intervening space. Now if a loop of wire, through which was flowing an electric current, was passed downward straight between these two poles, cutting the lines of magnetic force at right angles, a mysterious power would force the wire back to the top of the magnetic lines. Therefore the armature which rotates between the poles of the field magnet in a motor is nothing more than a series of coils of wire through which an electric current is passing. Those coils which are at the bottom of the lines of magnetic force between the poles of the field magnet are being forced upward on the positive side and downward on the negative side. This motion would stop as soon as the armature coils adjusted themselves in accordance with the lines of magnetic force if it wasn't for a little device called a commutator The duty of the commutator, which is a divided ring of insulated copper fastened to the axle of the armature, is periodically to reverse the current passing through the armature coils so they never adjust themselves to the magnetic force flowing between the poles of the field magnet. No matter how fast or slow the motor runs, as the armature revolves, the "brushes" which feed the current to the armature coils by contract with the split surface of the revolving commutator, reverse the current in time to keep the strange magnetic force always exerting its invisible powers to drag one side of the armature up and to force the other side down. This force gives the armature continuous motion and power. Increasing the electric current in the armature coils increases the power of this magnetic "pull" and the horsepower of the motor grows accordingly.

A glance at the motor running so quietly and doing so much work for so small a body will reveal all these facts. The field magnets can be readily seen and it takes but a little imagination to realize the lines of magnetic force extending between the opposed poles. In the surface of the armature, when the motor is stopped, the coils can be seen imbedded in slots. These coils are made of insulated wire in the smaller motors and heavy, insulated copper strips in the larger machines. After these things are noted it is easy to understand the powerful magnetic force which is pulling continually to adjust the coils in the armature to a certain position and then, just as the task seems to be completed, the little revolving commutator has reversed the current and the work has to be done all over again. And so on minute after minute, day after day, year after year the magnets are working to set the lines of force right accordingly to nature's own irrevocable laws and man keeps them ever opposed and utilizes the energy expended to turn the wheels of his industries, drive his railroad trains and to supply him with power for everything.

## DANIEL APPLETON DEAD.

NEW YORK, Mar. 19.—News of the death in London of Daniel Sydney Appleton, English representative of the Publishing House of D. Appleton and Company, was received in this city yesterday. Mr. Appleton, who was 47 years of age, died of heart disease. He went abroad in 1906 and established a publishing house in London.

Mr. Appleton was the son of the late Daniel Sydney Appleton, one of the founders of the establishment which bears his name. Upon graduation from Yale University in 1880 he entered his father's publishing house. As a literary adviser he was known by many of the formost writers of his time.

## POPULAR MECHANICS.

To pick out the salient features of a magazine so brimful of good things as the April number of Popular Mechanics were a feat well nigh impossible. Salience in this instance rests with the individual's taste rather than the masses' appetite, for such a diversity and range of subjects are treated that none can fail to find something of special and peculiar interest to himself. Everyone, however, desires to know exactly what Uncle Sam is doing and expecting, in the airship line, and the article "Unit-Supremacy" will tell him just what he wants to know. Another feature describes with illustration an aluminum heavier-than-air flying-machines a Milwaukee inventor has built. There are 182 articles and 156 illustrations in the April number. Many times a picture will tell graphically a story words cannot express. This is true of a description of the punishment of criminals in Orientad countries, "Evolution of Rubber from Seed to Auto Tires," "Removing a Live Wire Victim from a Pole," "Topping a Cypress Tree," "The Ghasting End of Old Horses," "A Cyclone Photograph" and others. An Italian engineer has a plan for climbing the Alps with boats. Strange as it may seem, other noted engineers have endorsed his idea as practicable and several illustrations accompanying an article on the subject show how it is proposed to carry on the scheme at a cost of $300,000,000. The article on the Navy's cooking school will be of interest to many. Every motor boat enthusiast will want a copy of the April number of Popular Mechanics. Motor boating has become a great national pastime and thousands of new crafts are being built this year, by individuals as well as regular builders. Every type of motor-propelled craft—house boat, launch racer life-boat, dory, cabin cruiser, etc—is described, and there is also, a good illustrated article on "The Launching of Launches."

Features of the Amcateur Mechanics department are "How to Make a Wireless Telephone," "A Home Made Microscope," "Photographs in Relief" "Experiments with a Mirror" and others. The Shop Notes department is adapted to the needs of craftsmen everywhere, and is, in fact, a compilation of practical experience of practical men. In the April number it cantains 46 articles and 40 illustrations. Every article in the magazine is "Written so you can understand it."

## GRAZING ALLOTMENT.

**Forestry Service Has Recommended Number of Grazing be Increased.**

WASHINGTON, March 19.—The forest service has recommended that the number of cattle and horses allowed to graze upon the Blue Mountains National Forest in the State of Oregon, during the season 1908, be increased from 16,000 to 17,900 head and the number of sheep from 150,000 to 152,500 head. This forest has recently been divided into three administrative units, and the increase in the number of head of stock to graze on the range this year was made to permit an equitable adjustment among the former users of the forest.